IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Lee et al. Group Art Unit: 1792

Application Serial No.: 10/825,968 | Examiner: Jolley, Kirsten

Filed: **April 15, 2004** Conf. No.: **8220**

Title: SYSTEM AND METHOD FOR

MARKING TEXTILES WITH

NUCLEIC ACIDS

REQUEST FOR CONTINUING EXAMINATION, AMENDMENT AND RESPONSE TO OFFICE ACTION (37 CFR §1.114/1.111)

Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir/Madam:

This Request for Continued Examination (RCE), Amendment and Response is filed in response to the Final Office Action mailed July 26, 2010, in the above-referenced patent application. Allowance of the pending claims in view of the following amendments and remarks is respectfully requested.

Amendments to the Claims begin on Page 2.

Remarks begin on Page 12.

Amendments to the Claims:

Listing of Claims:

1. (Currently Amended) A method for authenticating a textile material, comprising: selecting a unique nucleic acid marker having a specific length and a specific sequence, wherein identification data of said unique nucleic acid marker is stored in a data base;

selecting a media that causes said unique nucleic acid marker to adhere to a fibrous <u>textile</u> material;

mixing said media with said nucleic acid marker to generate a nucleic acid marker mixture;

applying said nucleic acid marker mixture to said fibrous <u>textile</u> material; generating a marked fibrous <u>textile</u> material by causing said nucleic acid marker to adhere to said fibrous <u>textile</u> material;

producing said <u>fibrous</u> textile material by using one or more fibrous <u>textile</u> materials wherein one of said plurality of fibrous <u>textile</u> materials is said marked fibrous <u>textile</u> material; and

authenticating said <u>fibrous</u> textile material by detecting said unique nucleic acid marker in said marked fibrous <u>textile</u> material, said nucleic acid detected with primers particular to said unique nucleic acid having said specific length and said specific sequence.

- **2.** (**Previously Amended**) The method of claim 1 wherein said media is selected from the group consisting of aqueous solvents, adhesives, polymers, binders, and cross-linking agents.
- **3.** (**Previously Amended**) The method of claim 1 wherein said media is selected from the group consisting of acrylic, polyurethane, dimethyloldihydroxyethyleneurea, polyvinyl alcohol, starch, epoxy, and polyvinyl chloride.

4. (Currently Amended) The method of claim 1 wherein said <u>fibrous</u> textile material is selected from the textile group consisting of yarns, sewing threads, fabrics, nonwoven <u>textile</u> materials, and products manufactured from fibrous <u>textile</u> materials.

- **5.** (**Currently Amended**) The method of claim 4 wherein a plurality of products manufactured from fibrous <u>textile</u> materials is selected from the group consisting of apparel, home, technical, automotive, medical, aerospace, and consumer products.
- **6.** (Original) The method of claim 1 wherein said nucleic acid is deoxyribonucleic acid.
- 7. (Original) The method of claim 1 wherein said nucleic acid is ribonucleic acid.
- **8.** (Currently Amended) The method of claim 1 wherein said authenticating of said <u>fibrous</u> textile material further comprises identifying specific characteristics of said <u>fibrous</u> textile material.
- **9.** (Currently Amended) The method of claim 8 wherein said identifying specific characteristics of said <u>fibrous</u> textile material further comprises determining a plurality of product information about said <u>fibrous</u> textile material.
- **10.** (**Previously Amended**) The method of claim 9 wherein said product information is selected from the group consisting of product origin, supply chain information, and manufacturing information.

11. (Currently Amended) A method for authenticating a textile material, comprising:

selecting a unique nucleic acid marker having a specific length and a specific sequence, wherein identification data of said unique nucleic acid marker is stored in a data base;

selecting a media that is used as a topical treatment for a fibrous <u>textile</u> material;

mixing said media with said nucleic acid marker to generate a nucleic acid marker mixture;

applying said nucleic acid marker mixture to said fibrous <u>textile</u> material; generating a marked fibrous <u>textile</u> material by causing said nucleic acid marker to adhere to said fibrous <u>textile</u> material;

producing said <u>fibrous</u> textile material by using one or more fibrous <u>textile</u> materials wherein one of said plurality of fibrous <u>textile</u> materials is said marked fibrous <u>textile</u> material; and

authenticating said <u>fibrous</u> textile material by detecting said unique nucleic acid marker in said marked fibrous <u>textile</u> material, said nucleic acid detected with primers particular to said unique nucleic acid having said specific length and said specific sequence.

- **12.** (**Previously Amended**) The method of claim 11 wherein said media is selected from the group consisting of colorants, dyes, dyeing auxiliaries, print pastes, softeners, lubricants, antistatic agents, water repellants, moisture transport, soil resistance, antimicrobial, wetting agents, leveling agents, and water.
- **13.** (Currently Amended) The method of claim 11 wherein said <u>fibrous</u> textile material is selected from the textile group consisting of yarns, sewing threads, fabrics, nonwoven materials, and products manufactured from fibrous <u>textile</u> materials.

14. (Currently Amended) The method of claim 13 wherein a plurality of products manufactured from fibrous <u>textile</u> materials is selected from the group consisting of apparel, home, technical, automotive, medical, aerospace, and consumer products.

- **15.** (Original) The method of claim 11 wherein said nucleic acid is deoxyribonucleic acid.
- **16.** (Original) The method of claim 11 wherein said nucleic acid is ribonucleic acid.
- **17. (Currently Amended)** The method of claim 11 wherein said authenticating of said <u>fibrous</u> textile material further comprises identifying specific characteristics of said <u>fibrous</u> textile material.
- **18.** (Currently Amended) The method of claim 17 wherein said identifying specific characteristics of said <u>fibrous</u> textile material further comprises determining a plurality of product information about said <u>fibrous</u> textile material.
- **19.** (**Previously Amended**) The method of claim 18 wherein said product information is selected from the group consisting of product origin, supply chain information, and manufacturing information.
- **20.** (Currently Amended) A method for authenticating a textile material, comprising:

selecting a unique nucleic acid marker having a specific length and a specific sequence, wherein identification data of said unique nucleic acid marker is stored in a data base;

selecting a carrier media that can be added to one or more of a plurality of fiber <u>textile</u> manufacturing processes without affecting each of said fiber <u>textile</u> manufacturing processes;

mixing said carrier media with said nucleic acid marker to generate a nucleic acid marker mixture;

applying said nucleic acid marker mixture to said a fibrous textile material;

generating a marked fibrous <u>textile</u> material by causing said nucleic acid marker to adhere to said fibrous textile material;

producing said <u>fibrous</u> textile material by using one or more fibrous <u>textile</u> materials wherein one of said plurality of fibrous <u>textile</u> materials is said marked fibrous textile material; and

authenticating said <u>fibrous</u> textile material by detecting said unique nucleic acid marker in said marked fibrous <u>textile</u> material, said nucleic acid detected with primers particular to said unique nucleic acid having said specific length and said specific sequence.

- **21.** (Currently Amended) The method of claim 20 wherein said <u>fibrous</u> textile material is selected from the textile group consisting of yarns, sewing threads, fabrics, nonwoven materials, and products manufactured from fibrous <u>textile</u> materials.
- **22.** (Currently Amended) The method of claim 21 wherein a plurality of products manufactured from fibrous <u>textile</u> materials is selected from the group of products manufactured from fibrous <u>textile</u> materials consisting of apparel, home, technical, automotive, medical, aerospace, and consumer products.
- **23.** (**Original**) The method of claim 20 wherein said nucleic acid is deoxyribonucleic acid.
- 24. (Original) The method of claim 20 wherein said nucleic acid is ribonucleic acid.
- **25.** (**Currently Amended**) The method of claim 20 wherein said authenticating of said <u>fibrous</u> textile material further comprises identifying specific characteristics of said <u>fibrous</u> textile material.
- **26.** (**Currently Amended**) The method of claim 25 wherein said identifying specific characteristics of said <u>fibrous</u> textile material further comprises determining a plurality of product information about said fibrous textile material.

27. (**Previously Amended**) The method of claim 26 wherein said product information is selected from the group consisting of product origin, supply chain information, and manufacturing information.

28. (Withdrawn Currently Amended) A method for authenticating a textile material, comprising:

selecting a unique nucleic acid marker having a specific length and a specific sequence, wherein identification data of said unique nucleic acid marker is stored in a data base;

selecting a viscous spinning solution for fiber-spinning; mixing said viscous spinning solution with said nucleic acid marker to generate a viscous dope having said unique nucleic acid marker;

extruding said viscous dope through an opening in a spinneret to form a marked textile fiber;

solidifying said marked <u>textile</u> fiber;

producing said textile material by using one or more fibrous <u>textile</u> materials wherein one of said plurality of fibrous <u>textile</u> materials is said marked <u>textile</u> fiber; and

authenticating said textile material by detecting said unique nucleic acid marker in said marked <u>textile</u> fiber, said nucleic acid detected with primers particular to said unique nucleic acid having said specific length and said specific sequence.

- **29.** (Withdrawn) The method of claim 28 wherein said viscous spinning solution is selected from a group consisting of acetate, rayon, acrylic, nylon, polyester, or glass.
- **30.** (Withdrawn Currently Amended) The method of claim 28 wherein said textile material is selected from a textile group consisting of yarns, sewing threads, fabrics, nonwoven materials, or products manufactured from fibrous textile materials.
- **31.** (Withdrawn Currently Amended) The method of claim 30 wherein said plurality of products manufactured from fibrous textile materials is selected from a

group consisting of apparel, home, technical, automotive, medical, aerospace, or consumer products.

- **32. (Withdrawn)** The method of claim 30 wherein said nucleic acid is deoxyribonucleic acid.
- **33.** (Withdrawn) The method of claim 30 wherein said nucleic acid is ribonucleic acid.
- **34. (Withdrawn)** The method of claim 30 wherein said authenticating of said textile material further comprises identifying specific characteristics of said textile material.
- **35.** (Withdrawn) The method of claim 34 wherein said identifying specific characteristics of said textile material further comprises determining a plurality of product information about said textile material.
- **36.** (Withdrawn) The method of claim 35 wherein said product information is selected from a group consisting of product origin, supply chain information, or manufacturing information.
- **37.** (Currently Amended) A method for manufacturing a marked textile to authenticate said marked textile's origin, comprising:

providing at least one nucleic acid marker, said at least one nucleic acid marker having identification data stored in a data base;

mixing said at least one nucleic acid marker with a liquid;

spraying said liquid on a first <u>textile</u> fiber so as to mark said first <u>textile</u> fiber with nucleic acid; and

combining said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers to generate said marked textile.

38. (Withdrawn) The method of claim 37 wherein said spraying of said liquid is performed during a bale opening process.

- **39.** (**Original**) The method of claim 37 wherein said spraying of said liquid is performed during a knitting/weaving process.
- **40. (Withdrawn)** The method of claim 37 wherein said liquid includes an ink that is used during a dyeing process.
- **41. (Currently Amended)** The method of claim 37 wherein after combining said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers, the method further comprises processing said marked textile using typical textile processes.
- **42.** (Currently Amended) The method of claim 37 wherein said first <u>textile</u> fiber comprises rayon.
- **43.** (Currently Amended) The method of claim 37 wherein said first <u>textile</u> fiber is configured to adhere to said at least one nucleic acid marker.
- **44. (Withdrawn)** The method of claim 37 further comprising mixing said liquid in a dyeing process.
- **45.** (Withdrawn Currently Amended) A method for manufacturing a marked textile to authenticate said marked textile's origin, comprising:

providing at least one nucleic acid marker, said at least one nucleic acid marker having identification data stored in a data base;

providing an infrared marker;

embedding said at least one nucleic acid marker and said infrared marker into a first textile fiber so as to mark said first textile fiber;

blending said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers to generate said marked textile.

46. (Withdrawn Currently Amended) The method of claim 45 wherein said blending of said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers is performed during ginning.

- **47. (Withdrawn Currently Amended)** The method of claim 45 wherein said blending of said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers is performed before opening of a yarn manufacturing process.
- **48. (Withdrawn Currently Amended)** The method of claim 45 wherein said blending of said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers is performed during opening of a yarn manufacturing process.
- **49. (Withdrawn Currently Amended)** The method of claim 45 wherein said blending of said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers is performed before blending of a yarn manufacturing process.
- **50.** (Withdrawn Currently Amended) The method of claim 45 wherein said blending of said marked first <u>textile</u> fiber with one or more unmarked <u>textile</u> fibers is performed during blending of a yarn manufacturing process.
- **51.** (Withdrawn Currently Amended) The method of claim 45 wherein said first textile fiber comprises rayon.
- **52. (Withdrawn Currently Amended)** The method of claim 45 wherein said first textile fiber is configured to adhere to said at least one nucleic marker.
- **53.** (Withdrawn) The method of claim 45 further comprising mixing said at least one nucleic markers in a dyeing process for yarn manufacturing.
- **54.** (Currently Amended) The method of claim 1, wherein said media that causes said unique nucleic acid marker to adhere to <u>said</u> a fibrous <u>textile</u> material is used as a topical treatment for said fibrous textile material.

55. (Currently Amended) The method of claim 1, wherein said media that causes said unique nucleic acid marker to adhere to a fibrous <u>textile</u> material is a carrier media.

- **56. (New Claim)** The method of claim 1 wherein said fibrous textile material has a high length to width ratio.
- **57.** (New Claim) The method of claim 1 wherein said nucleic acid marker is of plant based origin.

REMARKS

The present remarks are in response to the Final Office Action dated July 26 2010, in which the Final Office Action issued a rejection of claims 1-27, 37, 39, 41-43, 54 and 55. In this response, Applicant has amended the claims and responds to the present Final Office Action with detailed comments to overcome the rejections, and respectfully requests that the pending or rejected claims be placed in a state of allowance. No new matter has been added.

Support for amended claims 1, 11, 20, 37 and withdrawn claims 28 and 45 are found in paragraph 0029 of the specification and the original claims.

Support for amended claims 4, 5, 8, 9, 13, 14, 17, 21, 22, 25-27, 41-43, 54, 55 and withdrawn claims 30, 31, 46-52 are found throughout the specification and the original claims.

Support for claim 56 is found in paragraph [0020] of the specification.

Claims 1-55 are pending.

Claims 28-36, 38, 40 and 44-53 are withdrawn from consideration.

Claims 1-27, 37, 39, 41-43, 54 and 55 were rejected.

Claims 1-5, 8, 9, 11, 13, 14, 17, 20-22, 25-27, 37, 41-43, 54, 55 and withdrawn claims 28, 30, 31, 46-53 have been amended.

New claims 56 and 57 have been submitted.

No new matter was added.

C. 35 USC 103

The Examiner rejected claims 1-27, 37, 39, 41-43, and 54-55 under 34 U.S.C. 103(a) as being unpatentable over WO 02/057548 A1

The Examiner noted that Rancien et al. (US 2004/0063117) previously cited, is used as a working English translation of WO 02/05548, and that the paragraph numbers cited are those of the US 2004/0063117 English language reference.

The Examiner states that with respect to independent claims 1, 11, 20, WO'548 discloses a method for authenticating an object, particularly for authenticating paper intended for serving as the medium of works of art and other documents of value (paragraph [005] Rancien et al.). WO'548 teaches the steps of

selecting a unique nucleic acid marker having a specific length and a specific sequence: selecting a media that causes said marker to adhere to a fibrous material (see [003] Rancien et al.); mixing said media with said marker to generate a nucleic acid marker mixture; applying said nucleic acid marker mixture to fibers ([0018] Racien et al.); generating a marked fibrous material by causing said nucleic acid marker mixture to adhere to said fibers; producing a paper material by using one or more marked fibers ([0043] of Rancien et al.)' and authenticating the paper material by detecting said unique nucleic acid marker in said marked fibrous material, said nucleic acid detected with primers particular to said unique nucleic acid having said specific length and said specific sequence ([0036] of Rancien et al.). The Examiner noted that WO'548 is directed to making a paper, and lacks a teaching of forming a textile material from the marked fibers. However, WO'548 teaches use of its invention to make "paper for serving as the medium of works of art," and the Examiner took Official notice that the medium of works of art is often on canvas. It was the Examiner's position that one having ordinary skill in the art would have been motivated to similarly form a canvas material instead of paper with the marked fibers produced by the process of WO'548 upon seeing WO'548 teaching that it is desirable to authenticate the medium of works of art. The Examiner further stated that one would expect similar results because the manufacture of a textile and paper would both be formed from marked fibers, and the only difference is a subsequent knitting/weaving process in place of the mass papermaking process.

The Examiner readily equates the fibers of paper to the fibers of a textile. The Applicants respectfully disagree. Paper fibers are very different than textile fibers in their physical characteristics. One skilled in the art of labeling textile fibers with a nucleic acid mixture would not look to labeling paper since they have different characteristics which make adhering or attaching the marker to the textile quite different to the methods used by WO'548 to essentially absorb the "bodies" comprising the marker onto or into the paper.

Other differences is that WO'548 uses large marked particles, large enough to see under a microscope (Racien et al [0010]) which is not useful when manufacturing a covert textile article to prevent counterfeiting of textiles as disclosed and claimed in the instant application. Also, Racien et al [0019] and [032] uses an

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additional material or "bodies" such as agglomerate of paper fibers to protect the nucleic acids. The instant invention has the advantage of not needing microsphere "bodies" to protect the nucleic acid marker to be detected by PCR. The Applicant's result of being able to detect the nucleic acid marker in the absence of a medium such as Racien et al's "bodies" maybe considered an unexpected result by those skilled in the art of authenticating and article with a nucleic acid marker.

Furthermore, WO'548 does not address the methods of adhering the covert nucleic acid marker to a textile fiber or even directly to a paper fiber. WO'548 uses the medium or bodies comprising the biochemical marker and impregnates, scatters or sprays the bodies into/onto the paper as large spots stripes etc., but does not teach how the nucleic acid adheres to the paper fiber directly. In paragraph 20 of Racien et al in paragraph 20 states that the biochemical marker may be chemically grafted to the bodies but does not disclose how this would work. Racien et al uses the bodies as protection [0032] and [0033]. WO'548 also does not teach how to manufacture a textile fabric with the nucleic acid marker incorporated within the fabric.

Paper is produced from pulp formed by cellulose wood fibers which are short fibers that can be extruded into paper sheets. Cellulose is a polysaccharide having a linear chain of glucose molecules making it very hydrophilic. Paper physically is more hydrophilic than many textile fabrics making the adhering process to paper more likely to be a process of absorbing the nucleic acid carrying bodies to the paper fibers (see Racien et al [008]) than the type of adhering necessary for marking textile fibers disclosed in the instant application.

Fabrics are much more flexible than paper, making the adhering process of a nucleic acid marker completely different. Textile fabrics have a long length to width ratio while paper fibers are much shorter making it difficult to weave or fabricate a textile like fabric. These considerations need to be considered when marking textile fibers with a naked nucleic acid solution. Racien et al had the benefit of incorporating paper fiber bodies carrying the nucleic acid marker to the paper fiber while the instant invention relies on naked DNA in a mixture of polymers or glues to adhere the marker to a textile fiber.

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Furthermore, paragraph [0029] of the instant specification states that, "the identification data for each nucleic acid marker is stored in a database." WO'548 does not teach or suggest that identification data of the unique nucleic acid markers are stored in any type of a database. In fact, Racien et al does not disclose or even suggest the idea of having unique nucleic acid markers for unique fibrous materials, let alone the formation of a database of identification information for each nucleic acid marker as do the Applicants.

The Applicants have amended independent claims 1, 11, 20, 37 and withdrawn claims 28 and 45 to more particularly point out that the fiber and fibrous materials are textile in nature. Also, independent claims 1, 11, 20, 37 and withdrawn claims 28 and 45 haven been amended to recite that identification data of the unique nucleic acid marker is stored in a database. WO'548 does not teach or suggest the use of a database to store identification data of unique nucleic acid markers. New claim 56 further points out the differences between the paper fiber of WO'548 and that of the Applicants' by reciting that the textile fiber has a high length to width ratio. Support of the new claim 56 is found in paragraph [0020] and yarn making in general in paragraph [0021] of the Applicants' specification.

New claim 57 further points out that the nucleic acid marker can be of plant origin. WO'548 does not teach or suggest the use of a biochemical marker that is plant based. Support for new claim 57 is found in paragraph [0026] of the instant specification.

As stated in Section 2143 of the MPEP:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure. Section 2143, MPEP Rev. 2.0, May 2004, pg. 2100-129.

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The prior art reference must teach or suggest all the claim limitations. WO'548 does not teach or suggest the labeling of a textile fiber, or storing the identification data of the nucleic acid marker in a database, or labeling a fiber with a high length to width ratio and lastly does not teach or suggest that the nucleic acid marker be of plant origin. The Applicants believe that the amendments to claims 1, 11, 20, 37 and withdrawn claims 28 and 45 make these claims and those dependent thereof in condition for allowance as well as new claims 56 and 57.

The Examiner rejected claims 2-3, by stating the WO'548 discloses use of polyurethane as the media ([0033] of Rancien et al.) which is a polymer.

The Applicants respectfully disagree. Rancien et al use polyurethane with "bodies" which are in general, which are used to protect the nucleic acid marker. These bodies are subjected to a mixture of polyurethane, not the naked DNA utilized by the Applicants.

The Examiner rejected independent claim 11 and 12 because WO'548 teaches that the marker mixture may be applied to the fibers after they are made by a dying process ([0018] of Rancien et al.).

The Applicants respectfully disagree. The dying process disclosed by Racien et al in paragraph [0018] is for making the bodies, not for coloring the fiber as in dyeing textiles which is a different technique all together.

The Examiner also rejected claims 4-5, 13-14, 21-22 since it is noted that a canvas used for painting is a product manufactured from fibrous materials, and may be considered a home or consumer product.

The Applicants respectfully disagree. While a canvas is made of textile fibers, it is not made from paper. The media for the works of art disclosed in Racien et al are paper media which is used for sketching and watercolor paintings, Racien et al is not making a textile canvas material that would be used for oil or acrylic painting. Again the "fibrous materials" of the instant invention are very different than the paper fibers utilized by Racien et al.

The Applicants have amended independent claims 1, 11, 20, 37 and withdrawn claims 28 and 45 to more particularly point out that the fibrous material claimed is "fibrous textile material" having different characteristics than paper fibers.

Dependent claims 4-5, 8, 9, 13, 14, 17, 21-22, 25-27, 37, 41-43, 54, 55 and withdrawn claims 30, 31, and 46-52 have also been amended to conform to the recitation of "fibrous textile material" in the above mentioned independent claims.

As to claims 6-7, 15-16, 23-23, the Examiner stated that WO'548 teaches the use of DNA as the nucleic acid. However it would have been obvious to have similarly used RNA since WO'548 is generally directed to the use of nucleic acid and RNA is commonly known to be the other nucleic acid (see [0042] of Racien et al.).

The Applicants respectfully disagree. While DNA is the primary nucleic acid thought to be utilized in both the prior art and the instant invention, RNA is not readily utilized due to the high rate of degradation of this nucleic acid compared to DNA degradation. To utilize RNA one needs to be able to stabilize the nucleic acid marker in more rigorous environment than needed to DNA. Racien et al does not disclose or suggest using RNA as a marker unlike the instant specification. This may be due to the fact that Racien et al did not possess the conditions necessary to stabilize RNA in a nucleic acid marker.

As to claims 8-10, 17-19 25-27, the Examiner states that WO'548 teaches that the nucleic acid marker of its invention help to identify and authenticate an object. The Examiner further states that it would have been well within the skill of the ordinary artisan to have associated the DNA marker with a plurality of product information such as the product's origin or supply chain or manufacturing information as the purpose of the DNA marker.

The Applicants respectfully disagree. WO'548 does not disclose or suggest associating the nucleic acid marker to a particular supply chain or manufacturer. WO'548 does not suggest or disclose taking the unique nucleic acid identification data and placing it into a database as independent claims 1, 11, 20 now recite. In fact Racien et al does not disclose the idea that the marker is unique to any article and especially not to a textile article.

The Examiner rejected claim 37 because WO'548 teaches spraying ([0079] Rancien et al.) and application of fiber ([018-019]). As to claims 39 and 41, the Examiner stated the WO'548 generally discloses that the DNA marker fluid may be applied at any stage during production of the fiber or after a fiber has been made, as well as during the paper-making step. The Examiner stated that it would have

similarly been obvious to have sprayed the DNA marker fluid during a knitting/weaving process step in the process of making a textile material with the expectation of successful results sine WO'548 generally discloses addition of the marker fluid at any point during production.

The Applicants respectfully disagree. The "spraying" mentioned by Racien et al is for spraying the bodies carrying the biochemical marker onto paper. This is not the same as spraying naked DNA onto textile fibers as disclosed and claimed by the Applicants. As mentioned above, the physical characteristics of paper fibers and textile fibers are very different and there would be no expectation of success using similar methods used for spraying paper as there would be for spraying fabrics or textile fibers. Marked textile materials would need to withstand washing and rinsing during dye processes unlike during the manufacturing of nucleic acid marked paper. The paper would disintegrate during a washing step utilized in making a textile or during routine cleaning.

Applicants request that the 103a rejection be withdrawn since the rejection is solely based on WO'548. Based on the remarks and amendments to the pending claims, the Applicants believe that the 103a rejection has been overcome.

E. Conclusion

In view of all of the foregoing, Applicants believe that the pending claims are in condition for allowance. The fee for extension pursuant to 37 CFR §1.17 (a)(2) is submitted herewith.

Respectfully Submitted;

Th Mila

Dated: December 28, 2010 Michael A. Kerr

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